

## 5. PERSONAL PROTECTIVE EQUIPMENT

This section provides guidance for the selection and use of PPE to be worn for project tasks and contingencies for upgrading and downgrading PPE. Types of PPE are generally divided into two broad categories: (1) respiratory protective equipment and (2) PPE. Both of these categories are incorporated into the standard four levels of protection (Levels A, B, C, and D).

The purpose of personal protective clothing and equipment is to shield or isolate individuals from the chemical, physical, radiological, and safety hazards that may be encountered during project tasks when engineering and other controls are not feasible or cannot provide adequate protection. It is important to realize that no one PPE ensemble can protect against all hazards under all conditions and that proper work practices and adequate training will serve to augment PPE to provide the greatest level of protection to workers.

The Environmental Restoration (ER) PPE policy requires that field workers wear, at a minimum, sturdy leather boots above the ankles, safety glass with side shields, and hard hats. The HSO or safety professional will determine where and when this requirement will be invoked for each project.

The type of PPE will be selected, issued, used, and maintained in accordance with PRD-2001. Selection of the proper PPE is based on the following considerations:

- Specific conditions and nature of the tasks (e.g., sampling and drilling)
- Potential contaminant routes of entry
- Physical form and chemical characteristics of hazardous materials, chemicals, or waste
- Toxicity of hazardous materials, chemicals, or waste that may be encountered
- Duration and intensity of exposure (acute or chronic)
- Compatibility of chemical(s) with PPE materials and potential for degradation or breakthrough
- Environmental conditions (e.g., humidity, heat, cold, and rain)
- The hazard analysis (Section 2) evaluation of this HASP.

If radiological contamination is encountered at levels requiring the use of anti-contamination clothing, a task-specific RWP will be developed and MCP-432, PRD-2001, and MCP-7 will be followed.

The PPE requirement for specific project tasks is identified in Table 5-1. This list may be augmented by a JSA or RWP. Potential exposures and hazards will be monitored (as discussed in Section 3) during the course of the project to evaluate changing conditions and to determine PPE level adequacy and modifications.

Table 5-1. Operable Unit 1-07B task-based personal protective equipment requirements and modifications.

Location	Level of PPE	Category	Modifications and Comments
		Primary or Contingency	
NON-INTRUSIVE TASKS—Site preparation/demobilization, site restoration tasks			
NPTF	Level D	Primary	Level D PPE as defined in Table 5-2. Modification for specific hand protection for personnel will be defined in the JSA, TPR, and/or RWP (if written).
ISB Amendment Injection	Modified Level D	Upgrade Contingency	Upgrading to modified Level D (protective clothing, Tyvek coveralls, or equivalent) may be required if contamination (radiological or non-radiological) is detected.
INTRUSIVE TASKS—All soil sampling tasks, decontamination, and drilling tasks (if required)			
Well Drilling	Level D	Primary	Level D PPE as defined in Table 5-2. Modification for specific hand protection for samplers will be defined in the SWP and/or RWP (if written).
Groundwater Sampling	Modified Level D	Upgrade Contingency	Upgrading to modified Level D (protective clothing, Tyvek coveralls, or equivalent) may be required if contamination (radiological or non-radiological) is detected.
	Level C	Upgrade Contingency	If airborne contaminants increase to concentrations above established action levels, Level C full-face air-purifying respiratory protection (chemical/radiological) will be worn in conjunction with chemical protective clothing.
ISB = in situ bioremediation JSA = job safety analysis NPTF = New Pump and Treat Facility PPE = personal protective equipment RWP = radiological work permit SWP = safe work permit TPR = technical procedure			

## 5.1 Respiratory Protection

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective will be to prevent atmospheric contamination. This will be accomplished as far as feasible by accepted engineering control measures (e.g., enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators will be selected and used.

Required task-based respiratory protection and protective clothing are listed on Table 5-1. Respirators may be required for specific project tasks. All personnel required to wear respirators will complete training and be fit-tested before being assigned a respirator in accordance with the training and documentation requirements in Section 6. Requirements for respirator use, emergency use, storage, cleaning, and maintenance—as stated in MCP-2726, “Respiratory Protection,” and PRD-2109—will be followed.

## **5.2 Personal Protective Equipment Levels**

Table 5-2 lists PPE requirements for the four levels of PPE that may be worn during the course of the project. A minimum of Level D PPE will be required for conducting project tasks. Modifications to these levels will be made under the direction of the HSO in consultation with the project Industrial Hygiene and RadCon personnel, as appropriate. Such modifications are routinely employed during HAZWOPER site activities to maximize efficiency and to meet site-specific needs without compromising personnel safety and health.

### **5.2.1 Level D Personal Protective Equipment**

Level D PPE will only be selected for protective clothing and not on a site with respiratory or skin absorption hazards requiring whole-body protection. Level D PPE provides no protection against airborne chemical hazards, but rather is used for protection against surface contamination and physical hazards. Level D PPE will only be allowed in areas that have been characterized as having limited contamination hazards.

### **5.2.2 Level C Personal Protective Equipment**

Level C PPE will be worn when the task-site chemical or radiological contaminants have been well-characterized indicating that personnel are protected from airborne exposures by wearing an air-purifying respirator with the appropriate cartridges, no oxygen-deficient environments exist (less than 19.5% at sea level), and that there are no conditions that pose immediate danger to life or health.

## **5.3 Personal Protective Clothing Upgrading and Downgrading**

The project HSO, in consultation with the project industrial hygienist and RadCon personnel, will be responsible for determining when to upgrade or downgrade PPE requirements. Upgrading or downgrading of PPE based on changing site conditions or activities is a normal occurrence. Action levels listed in Table 3-2 serve as the initial basis for making such decisions. Additional reasons for upgrading or downgrading are listed in the following subsections.

### **5.3.1 Upgrading Criteria for Personal Protective Equipment**

The level of PPE required will be upgraded for the following reasons and work will halt until PPE upgrading has been completed:

- Identification of new, unstable, or unpredictable site hazards
- Temporary loss or failure of any engineering controls
- Contaminants that present difficulty in monitoring or detecting
- Known or suspected presence of skin absorption hazards

- Identified source or potential source of respiratory hazard(s) not anticipated
- Change in the task procedure that may result in an increased contact with contaminants or meeting any of the criteria listed above.

Table 5-2. Levels and options of personal protective equipment.

Personal Protective Equipment Level	Personal Protective Equipment Required	Optional Personal Protective Equipment or Modifications
D	<p>Coveralls or standard work clothes (coverall material type based on industrial hygiene determination)</p> <p>Hard hat (unless working indoors with no overhead or falling debris hazards) meeting ANSI Z89.1 requirements</p> <p>Eye protection (safety glasses meeting ANSI Z87.1 requirements as a minimum)</p> <p>Hand protection (material based on type of work and hazardous materials being handled)</p> <p>Safety footwear (steel or protective toe and shank) meeting ANSI Z41.1 requirements or sturdy leather boots above the ankle for construction tasks</p>	<p>Chemical or radiological protective clothing (Tyvek or Saranex) by IH or RCT</p> <p>Chemically resistant hand and foot protection (e.g., inner and outer gloves and boot liners)</p> <p>Radiological modesty garments under outer protective clothing (as required by RWP)</p> <p>Any specialized protective equipment (e.g., hearing protection, cryogenic gloves, face shields, welding goggles, and aprons)</p>
C	<p>Level D ensemble with the following respiratory and whole-body protection upgrades:<sup>a</sup></p> <p>Full-facepiece air purifying respirator equipped with a National Institute of Occupational Safety and Health-approved HEPA filter or chemical combination cartridge (IH to specify cartridge type)</p> <p>OR</p> <p>An air hood operating at a minimum flow of 6 cfm or a full-facepiece supplied air respirator with a 10-minute escape bottle, an SCBA or an escape air-purifying combination HEPA or chemical cartridge (supplied air respirator hose length no more than manufacturer's specification and under no circumstances greater than 91 m [300 ft])</p> <p>Standard Tyvek (or equivalent) coverall</p> <p>OR</p> <p>Chemical-resistant coveralls (e.g., Tyvek QC, Tychem 7500, or Saranex-23-P) (IH to specify material)</p>	<p>Chemical-resistant outer shoe or boot cover (IH or RCT to specify material)</p> <p>Inner chemical-resistant gloves with cotton liners (as determined by the IH and RWP)</p> <p>Outer chemical-resistant gloves (as determined by the IH)</p> <p>Radiological modesty garments under outer protective clothing (as required by RWP)</p> <p>Any specialized protective equipment (e.g., hearing protection, welding lens, and aprons)</p>

a. The IH in conjunction with other environment, safety, and health professionals determines the upgrades.

b. Level B and A work will require approval from the Environmental Restoration Program SH&QA manager and coordination with the INEEL Fire Department.

HEPA = high-efficiency particulate air

IH = industrial hygienist

INEEL = Idaho National Engineering and Environmental Laboratory

RCT = radiological control technician

RWP = radiological work permit

SH&QA = safety, health, and quality assurance

**Note:** Personnel must inspect all PPE before donning and entry into any work zone. Items found to be defective or that become unserviceable during use will be doffed and disposed of in accordance with posted procedures and will be placed into the appropriate waste stream. The PPE inspection guidance is provided in Table 5-3.

### **5.3.2 Downgrading Criteria**

The level of PPE will be downgraded under the following conditions:

- Elimination of hazard or completion of task(s) requiring specific PPE
- Implementation of new engineering or administrative controls that eliminate or significantly mitigate the hazard(s)
- Sampling information or monitoring data that show the contaminant levels to be stable and lower than established action limits
- Elimination of potential skin absorption or contact hazards.

## **5.4 Inspection of Personal Protective Equipment**

All PPE ensemble components must be inspected before use and when in use within project work zones. Self-inspection and the use of the buddy system, once PPE is donned, will serve as the principle forms of inspection. If PPE should become damaged or degradation or permeation is suspected, the individual wearing the PPE will inform others of the problem and proceed directly to the work zone exit point to doff and replace the unserviceable PPE. In addition, all PPE that becomes grossly contaminated or presents a potential source for the spread of such contamination will be required to be decontaminated or replaced. Table 5-3 provides an inspection checklist for common PPE items. Where specialized protective clothing or respiratory protection is used or required, the manufacturer's inspection requirements in conjunction with regulatory or industry inspection practices will be followed. Consult the project IH, safety professional, and RCT about PPE inspection criteria.

Table 5-3. Inspection checklist for personal protective equipment.

Personal Protection Equipment Item	Inspection
Respirators (full-facepiece air-purifying and supplied air respirators with escape-only self-contained breathing apparatus bottles or escape cartridges)	<p><b>Before use:</b></p> <p>Ensure airline matches the airline respirator to be used (black hose).</p> <p>Inspect airline hose connections (sections of hose) to ensure that all are threaded or permanent metal-to-metal connections (no quick disconnect pieces).</p> <p>Check condition of the facepiece, head straps, valves, connecting lines, fittings, and all connections for tightness.</p> <p>Check cartridge to ensure proper type or combination is being used for atmospheric hazards to be encountered, and inspect threads and O-rings for pliability, deterioration, and distortion.</p> <p>Check for proper setting and operation of regulators and valves, check all hose connections back to the breathing-air compressor, check the pressure to the airline station and on individual airline connections to ensure that pressure is within the required range (in accordance with the manufacturer's specifications).</p>
Level D, C, and B clothing	<p><b>Before use:</b></p> <p>Visually inspect for imperfect seams, non-uniform coatings, and tears.</p> <p>Hold personal protective equipment up to the light and inspect for pinholes, deterioration, stiffness, and cracks.</p> <p><b>While wearing in the work zone:</b></p> <p>Inspect for evidence of chemical attack such as discoloration, swelling, softening, and material degradation.</p> <p>Inspect for tears, punctures, and zipper or seam damage.</p> <p>Check all taped areas to ensure that they are still intact.</p>
Gloves	<p><b>Before use:</b></p> <p>Pressurize rubber gloves to check for pinholes: blow in the glove, then roll until air is trapped and inspect. No air should escape.</p> <p><b>Leather gloves:</b></p> <p>Inspect seams and glove surface for tears and splitting and verify no permeation has taken place.</p>

## **6. PERSONNEL TRAINING**

All INEEL personnel will receive training, as specified in 29 CFR 1910.120 or 29 CFR 1926.65 and INEEL companywide manuals (as applicable). Table 6-1 summarizes the project-specific training requirements for personnel-based access requirements, responsibilities at the project site, potential hazards, and training level requirements. This summary is not intended to include all potential OU 1-07B or other general Bechtel BWXT Idaho, LLC training that may be required for personnel.

Modifications (e.g., additions to or elimination of) to training requirements listed in Table 6-1 may be necessary based on changing field conditions. Any changes to the requirements listed in Table 6-1 must be approved by the HSO, with concurrence from the FTL, project manager, RCT, and IH, as applicable. These changes should be based on site-specific conditions and will generally be considered a minor change to the HASP, as defined by instructions from Form 412.11, "Document Management Control Systems (DMCS) Document Action Request (DAR)," because they are administrative in nature.

### **6.1 General Training**

All project personnel are responsible for meeting training requirements including applicable refresher training. Evidence of training will be maintained at the project site, field administrative location, or electronically (e.g., Training Records and Information Network [TRAIN] [INEEL 2001b]). Non-field team personnel and visitors must be able to provide evidence of meeting required training for the area of the site they wish to access before being allowed into a project area. As a minimum, all personnel who access project locations must receive a site-specific briefing, are required to wear PPE, and must provide objective evidence of having completed INEEL computer-based PPE training (00TRN288, "Personal Protective Equipment") or equivalent, in accordance with 29 CFR 1910.132, "General Requirements."

### **6.2 Project-Specific Training**

Before beginning work at the project site, field team members will receive project-specific HASP training that will be conducted by the HSO (or designee). This training will consist of a complete review of (1) a controlled copy of the project HASP, attachments, and DARs; (2) applicable JSAs and safe work permits (SWPs) (if required); (3) work orders; and (4) other applicable work control and work authorization documents, with time for discussion and questions. Project-specific training can be conducted in conjunction with, or separately from, the required formal pre-job briefing (MCP-3003).

At the time of project-specific HASP training, personnel training records will be checked and verified to be current and complete for all the training requirements shown in Table 6-1. After the HSO (or designee) has completed the site-specific training, personnel will sign Form 361.25, "Group Read and Sign Training Roster," or equivalent, indicating that they have received this training; understand the project tasks, associated hazards, and mitigations; and agree to follow all HASP and other applicable work control and safety requirements. Form 361.25 (or equivalent) training forms are available on the INEEL Intranet under "Forms."

A trained HAZWOPER 8-hour supervisor (FTL or other person who has been trained by the HAZWOPER supervisor) will monitor the performance of each newly 24-hour or 40-hour trained worker to meet the 1 or 3 days of supervised field experience, respectively, in accordance with 29 CFR 1926.120(e). Following the supervised field experience period, the supervisor will complete Form 361.47, "HWO Supervised Field Experience Verification," or equivalent, to document the supervised field experience.

Table 6-1. Required project-specific training.

Training	FTL, FCC, HSO, JSS, and Subcontractor Supervisor	Other Field Team Members (Including Operators and Samplers)	Support Personnel <sup>a</sup> Requiring Access Beyond the SZ	Visitors <sup>f</sup>
40-hr HAZWOPER <sup>b</sup>	Y	Y	As needed <sup>a</sup>	
24-hr HAZWOPER <sup>c</sup>			Y <sup>d</sup>	
8-hr HAZWOPER Site Supervisor	Y			
Site-Specific HASP Training <sup>e</sup>	Y	Y	Y	Y
RW I or II (except RCTs) <sup>g</sup>	Y	Y	Y <sup>d</sup>	
Hearing Conservation Training	Y	Y		
Confined Space Entrant/Attendant Training	Y	Y <sup>i</sup>		
CPR/Medic First-Aid <sup>h</sup>	Y	Y <sup>h</sup>		
Respirator Training	Y <sup>i</sup>	Y <sup>i</sup>		
HAZMAT Employee General Awareness	Y <sup>j</sup>	Y <sup>j</sup>		
Area Warden Training	FTL or FCC			
Fire Extinguisher Training	FCC	Operators only		
TAN Access Training	Y	Y	Y	Y
Chemical Hygiene Plan		Field Lab workers only		
- Shaded fields indicate specific training is not required				

Note: All training listed is available through the Idaho National Engineering and Environmental Laboratory.

a. Support personnel (occasional project workers) typically include RCTs, equipment operators, and laborers; mechanics who must enter the EZ or RBA are required to have the training necessary to perform their assigned tasks within the EZ or RBA. This may include the same training as the FCC or FTL (depending upon the task location) and directions from the HSO, IH, and RCT.

b. 40-hr HAZWOPER required training will require an additional 24 hours of HAZWOPER supervised field experience, as required by 29 CFR 1910.120(e). This field experience for this project will be documented on Form 361.47 (or equivalent form).

c. 24-hr HAZWOPER will require an additional 8 hours of HAZWOPER supervised field experience, as required by 29 CFR 1910.120. Field experience will be documented on Form 361.47 (or equivalent).

d. Only required if support personnel are to enter an EZ or CRZ. (HSO approval is also required.)

e. Includes project-specific HAZCOM, site-access/security, and decontamination and emergency response actions, as required by 29 CFR 1910.120(e). Pre-job and post-job review (MCP-3003) and stop work per MCP-553 and PRD-1004.

f. Visitors must notify the current onsite supervisor (FTL, HSO, JSS, etc.) and be escorted at all times by a trained field team member.

g. If radionuclides are detected or anticipated at contamination or radiation levels requiring posting/RW, training in accordance with *Manual 15C—Radiation Protection—INEEL Radiological Control Manual* is required. (RW I will allow access to RBAs, radiation areas, high radiation areas, and very high radiation areas.) RW II is required for access to a contamination area, high contamination area, or an airborne radioactivity area.

h. Need two CPR personnel onsite at all times.

i. As required based on project duties and project zone access requirements. If entering areas requiring respirator use, training to a specific type of respiratory protection is required (i.e., full face negative air-purifying respirator, PAPR, airline with escape capability or SCBA).

j. If identified as “HAZMAT” employee (i.e., anyone who directly affects hazardous material transportation safety by handling, packaging, labeling, loading, unloading, moving, and driving [per 49 CFR 171.8]).

CFR = *Code of Federal Regulations*

CRZ = contamination reduction zone

EZ = exclusion zone

FCC = field construction coordinator

FTL = field team leader

HASP = Health and Safety Plan

HSO = health and safety officer

IH = industrial hygienist

JSS = job site supervisor

MCP = management control procedure

PRD = program requirements document

RBA = radiological buffer area

RCT = radiological control technician

SCBA = self-contained breathing apparatus

SZ = support zone

TAN = Test Area North



**Note:** Supervised field experience is only required if personnel have not previously completed this training at another CERCLA (42 USC § 9601) site (documented) or they are upgrading from 24- to 40-hour HAZWOPER training. A copy of the training record must be kept at the project site as evidence of training or be available electronically.

**Note 2:** Completed training project forms (Form 361.47 or equivalent) should be submitted to the ER Program training coordinator for inclusion in the TRAIN System within 5 working days of completion.

### **6.3 Plan-of-the-Day Briefing, Feedback, and Lessons Learned**

The FTL or designee will conduct a daily plan-of-the-day (POD) or equivalent meeting. During this meeting, daily tasks are to be outlined; hazards identified; hazard controls, mitigation, and work zones established; PPE requirements discussed; and feedback from personnel solicited. At the completion of this meeting, any new work control documents will be reviewed and signed (e.g., SWP, JSA, or RWP).

**Note:** If a formal MCP-3003 pre-job briefing is conducted during the work shift, a POD is not required.

Particular emphasis will be placed on lessons learned from the previous workday's activities and how tasks can be completed in the safest, most efficient manner. All personnel are encouraged to contribute ideas to enhance worker safety and mitigate potential exposures at the project sites. This POD will be conducted as an informal meeting and the only required record will be to document the completion of the POD in the FTL or construction engineer or subcontractor technical representative logbook.

Safety and health topic-specific training or safety meetings may also be conducted during the course of the project to reinforce key safety topics. They may be conducted by project safety personnel and the IH or any field team member and should be performed in conjunction with the POD. Credit for a safety meeting can be received for such topic-specific training if a tailgate training form (Form 361.24, "Tailgate Attendance Roster") or equivalent is completed and submitted to the appropriate training coordinator for entry into TRAIN.

## 7. SITE CONTROL AND SECURITY

Site control and security will be maintained at the project site during all activities to prevent unauthorized personnel from entering the work area. Entry into and exit out of these areas will be controlled through the appropriate use of barriers, signs, and other measures in accordance with PRD-5117 and PRD-3001.

The HSO and safety professional should be consulted regarding equipment layout at the project site (in conjunction with the subcontractor superintendent for subcontractor-owned equipment) to minimize personnel hazards from equipment. The focus should be on equipment with stored energy (electrical, pressurized systems, elevated materials/equipment, chemical), moving and rotating parts (equipment that is guarded and that has open rotating parts such as a drill rig), and other equipment with the potential to result in personnel injuries from being struck-by, caught-between, or entangled in such equipment. The layout at the project site of equipment should reflect the nature of the hazard presented and should be mitigated through the use of engineering controls (barriers, guards, isolation), administrative controls (roped off restricted areas or controlled entry access), and qualifications of operators and those assisting in the operation of the equipment (when required).

Good housekeeping will be maintained at all times during the course of the project to include maintaining working and walking surfaces to minimize tripping hazards, stacking or storing materials and equipment in a centralized location when not in use, and regular cleanup of debris and trash that may accumulate at the project site.

Based on the nature of the project tasks to be completed, a graded approach with three types of site control designations will be used based on the potential hazards, complexity of work tasks, and duration of project tasks. The three types of work areas are:

- Exclusion zone
- Contamination reduction zone including a contamination reduction corridor (CRC) (the CRC may not be posted but is the primary pathway from the contamination reduction zone [CRZ] to the exclusion zone)
- Support zone.

The primary differences between the three areas will be the size of the area, method of delineation, and postings, as determined by the activity being conducted and associated hazards. The HSO in conjunction with the FTL and RadCon personnel (where radiological concerns exist) will determine what type of work area will be established.

Both radiological and non-radiological hazards (including industrial safety hazards) will be evaluated when establishing the initial work zone size, configuration, and location. Common barriers may be used to delineate both radiological and non-radiological work-zone postings, depending on the nature and extent of contamination. If common barriers are used, they will be delineated and posted in accordance with both sets of requirements (29 CFR 1910.120 and 10 CFR 835), using appropriate colored rope and postings.

Personnel not directly involved with project activities will be excluded from entering these work areas. Visitors may be admitted into work areas provided they (1) are on official business, (2) have received site-specific training or orientation by the FTL or designee, and (3) have met all the site-specific training requirements for the area they have a demonstrated need to access (including PPE training), as listed on Table 6-1.

**Note:** Visitors may not be allowed into controlled work areas during certain tasks to minimize risks to workers and visitors. The FTL in consultation with the HSO and RCT (as appropriate) will determine any visitor's need for access into the controlled work area.

## **7.1 Exclusion Zone**

The exclusion zone (EZ) will be large enough to encompass the primary task area (e.g., NPTF process area) and to allow equipment and personnel to move about freely and conduct necessary tasks. The minimum number of personnel required to safely perform project tasks will be allowed into the EZ. If the EZ will be relocated to another site or reconfigured, it will be delineated in a configuration large enough to prevent non-field team personnel in the support zone from being exposed to potential safety and health hazards. The exclusion zone shape and size will be based on the tasks being conducted, existing structures and facilities, and potential for impact to adjacent areas from project tasks or contaminants.

The EZ is a controlled access zone at all times. An entry and exit point will be established at the periphery of the EZ and CRC to regulate the flow of personnel and equipment. The EZ boundary will be delineated with rope or printed hazard ribbon and posted with signs in accordance with PRD-5117 or PRD-2022.

Factors that will be considered when establishing the EZ boundary include (1) tasks being conducted, (2) air monitoring data, (3) radiological contamination data, (4) radiation fields, (5) equipment in use, (6) the physical area necessary to conduct site operations, and (7) the potential for contaminants to be blown from the area. The boundary may be expanded or contracted as these factors change or additional monitoring information becomes available. All personnel who enter the EZ will wear the appropriate level of PPE for the hazards present and have required training as listed in Sections 5 and 6 of this HASP, respectively.

## **7.2 Contamination Reduction Zone and Corridor**

The CRZ and CRC are transition areas surrounding the EZ and are located between the EZ and SZ (see Figure 7-1). The CRC may not be formally delineated, but will be designated by the travel path from the established CRZ-controlled entry and exit point and the EZ entry and exit point. The CRZ and CRC will serve to buffer the support zone from potentially contaminated EZ areas. The CRZ and CRC may serve as staging areas for equipment and temporary rest areas for personnel.

## **7.3 Support Zone**

The SZ will be considered a “clean” area. The location of the SZ will be in a prevailing upwind direction from the EZ (where possible) and readily accessible from the nearest road. The SZ is a designated area or building outside the CRZ and does not have to be delineated. Support trailers, vehicle parking, additional emergency equipment, extra PPE, and stored monitoring and sampling equipment may be located in the SZ. Visitors who do not have appropriate training to enter other project areas will be restricted to this zone.

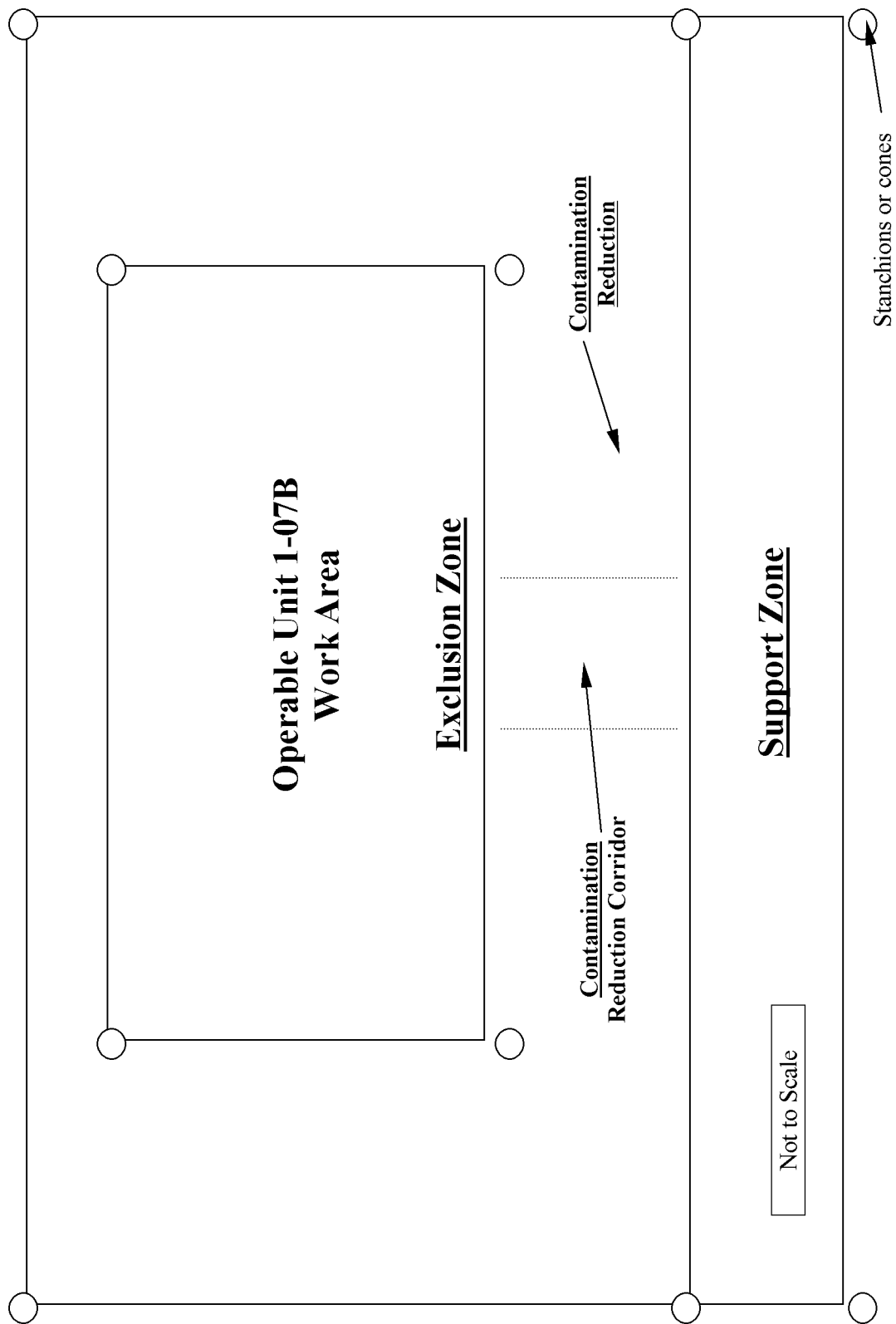


Figure 7-1. Established controlled work (exclusion zone, contamination reduction zone, and support zone) zones for the site.

## **7.4 Radiological Control and Release of Materials**

Potential radiologically contaminated items or equipment will not be released until required radiological surveys have been completed (e.g., hand-held instruments and swipes) in accordance with MCP-139, "Radiological Surveys"; MCP-425, "Radiological Release Surveys and the Disposition of Contaminated Materials"; as stated in the RWP; and as directed by RadCon personnel.

## **7.5 Site Security**

As described in the previous sections, all project site areas will be secured and controlled during normal work hours. During non-working hours, the general project sites located inside INEEL facilities are controlled by the facility fence and normal security access requirements. However, additional project site security and control will be required to prevent unauthorized personnel from entering the project area and being exposed to potential safety or health hazards. This will be accomplished by delineating project areas with rope boundaries and posting where hazards are left unmitigated (e.g., open trenches, exposed contaminated soils, or equipment left onsite). Signage will be left in place during off-hours and weekends to prevent personnel from inadvertently entering the area.

The FTL has the primary responsibility for ensuring that the project area is secured. The HSO and RadCon (as required) will ensure that all health and safety and radiological postings of the area are intact when leaving the site and will be responsible for maintaining them for the duration of the project. Project personnel are trained about site access and control requirements during project-specific HASP training and will not cross roped areas without the proper training and authorization, regardless of whether a sign is in place or not.

**Note:** Signs are routinely lost because of high winds and will be replaced as soon as possible the next working day following discovery.

## **7.6 Wash Facilities and Designated Eating Areas**

Ingestion of hazardous substances is possible when workers do not practice good personal hygiene habits. It is important to wash hands, face, and other exposed skin thoroughly after completion of work and before smoking, eating, drinking, and chewing gum or tobacco. For project personnel, the TAN-607 office area will serve as the designated eating area and wash facility.

## **7.7 Designated Smoking Area**

Smoking will only be permitted in designated project or facility smoking areas and personnel will comply with all INEEL smoking policies including disposing of smoking materials in the proper receptacle. Smoking will not be permitted outside facilities without establishing a designated smoking area. The project safety professional in consultation with the designated fire protection engineer will be the single point of contact for establishing any smoking area outside facilities and such areas may not be permitted at certain times of the year because of high or extreme fire danger.

## **8. OCCUPATIONAL MEDICAL SURVEILLANCE**

Task-site personnel will participate in the INEEL occupational medical surveillance program (or equivalent subcontractor program), as required by DOE Order 440.1A, “Worker Protection Management for DOE Federal and Contractor Employees,” and 29 CFR 1910.120 or 1926.65. Medical surveillance examinations will be provided before assignment, annually, and after termination of HAZWOPER duties or employment. This includes:

- Personnel who are, or may be, exposed to hazardous substances at or above the OSHA permissible exposure limit (PEL), or published exposure limits, without regard to respirator use for 30 or more days per year
- All employees who are injured, become ill, or develop signs or symptoms because of possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation
- All employees who wear a respirator for 30 days or more a year or as required by “Respiratory Protection” (29 CFR 1910.134).

Personnel who wear a respirator in performance of their job, or who are required to take respirator training to perform their duties under this plan, must participate in the medical evaluation program for respirator use at least annually, as required by MCP-2726 or PRD-2109, “Respiratory Protection.”

A single copy of the project HASP, job hazard analysis requirements, required PPE, confined space entry requirements (as applicable), and other exposure-related information will be made available, upon request, to the INEEL OMP physician (and subcontractor physicians) conducting medical surveillance for employees participating in this project. Exposure-monitoring results and hazard information furnished to the OMP physician will be supplemented or updated annually (as stated in Section 12) as long as the employee is required to maintain a hazardous waste and material employee medical clearance. The OMP physician will then evaluate the physical ability of an employee to perform the assigned work.

A documented medical clearance (e.g., a physician’s written opinion) will be provided to the employee and line management stating whether the employee has any detected medical condition that would place him or her at increased risk of health impairment from working in hazardous waste operations, emergency response operations, respirator use areas, and confined space areas (as applicable). The physician may impose restrictions on the employee by limiting the amount and type of work performed.

Personnel are responsible for communicating any work or medical restrictions to their supervisor so modified work assignments can be made if necessary. During the MCP-3003 pre-job briefing, the supervisor conducting the briefing should ask workers if they have any work restrictions. However, it is the employee’s responsibility to inform the supervisor of any work or medical restrictions.

### **8.1 Subcontractor Workers**

Subcontractor project personnel will participate in a subcontractor medical surveillance program that satisfies the applicable requirements of 29 CFR 1910.120 or 1926.65. As stated above, this program must make medical examinations available before assignment, annually, and after termination of hazardous waste duties. The physician’s written opinion, as defined by 29 CFR 1910.120(f)(7) (or equivalent), will serve as documentation that subcontractor personnel are fit for duty or will list work restrictions.

Medical data from the subcontractor employee's private physician, collected pursuant to hazardous material worker qualification, will be made available to the INEEL OMP physicians on request in accordance with *Manual 15A-Radiation Protection-INEEL Radiological Control Manual*; MCP-188, "Issuing TLDs and Obtaining Personnel Dose History"; MCP-2381, "Personnel Exposure Questionnaire"; and PRD-3001, "Radiological Control."

## 8.2 Injuries on the Site

It is the policy of the INEEL that an INEEL OMP physician must examine all injured personnel for the following reasons:

- An employee is injured on the job
- An employee is experiencing signs and symptoms consistent with exposure to a hazardous material
- An employee is believed to have been exposed to toxic substances or physical or radiological agents in excess of allowable limits during the course of a project at the INEEL.

**Note:** In the event of an illness or injury, the decision to provide first-aid and transport to the nearest medical facility or whether to immediately request an ambulance and continue to stabilize and provide first-aid should be based on the nature of the injury or illness and likelihood that transporting the individual may cause further injury or harm. Most likely, the person making this decision will only be trained to the medic first-aid/CPR level and should contact the CFA medical facility at 777 or 526-1515 for further guidance if there is any question as to the extent of injury or potential to cause further harm by movement of the injured individual.

In the event of a known or suspected injury or illness caused by exposure to a hazardous substance or physical or radiological agent, the employee will be transported to the nearest INEEL medical facility for evaluation and treatment (as necessary). The HSO and FTL are responsible for obtaining as much of the following information as is available to accompany the individual to the medical facility:

- Name, job title, work (site) location, and supervisor's name and phone number
- Substance, physical or radiological agent exposed to (known or suspected), and material safety data sheet, if available
- Nature of the incident and injury or exposure and associated signs or symptoms of exposure
- First-aid or other measures taken
- Locations, dates, and results of any relevant personal or area exposure monitoring or sampling
- List of PPE worn during this work (e.g., type of respirator and cartridge used).

Further medical evaluation will be determined by the treating or examining physician in accordance with the signs and symptoms observed, hazard involved, exposure level, and specific medical surveillance requirements established by the OMP director in compliance with 29 CFR 1910.120 or 1926.65.

**Note:** In the event of an illness or injury, subcontractor employees will be taken to the closest INEEL medical facility (if doing so will not cause further injury or harm) or be transported by INEEL ambulance to have an injury stabilized before transport to the subcontractor's treating physician or off-Site medical facility.

The TAN shift supervisor or OU 1-07B project manager will be contacted if any injury or illness occurs at a project site. As soon as possible after an injured employee has been transported to the INEEL medical facility, the FTL or designee will make notifications, as indicated in Section 10.

### **8.3 Substance-Specific Medical Surveillance**

No contaminants (listed in 29 CFR 1910 Subpart Z) with substance-specific standards have been identified at the project site. If new contaminants of concern are identified during the course of project tasks, exposures will be evaluated and quantified to determine if a substance-specific standard and associated medical surveillance requirements apply. If regulatory-mandated substance-specific standard action levels are triggered, then affected personnel will be enrolled in applicable substance-specific medical surveillance programs.



## 9. KEY SITE PERSONNEL RESPONSIBILITIES

The organizational structure for this project reflects the resources and expertise required to perform the work while minimizing risks to worker health and safety, the environment, and the public. Key project positions, lines of responsibility and communication, and the project within the ER Program structure are shown on the organization chart for the Site (see Figure 9-1). This organization chart is not all-inclusive, but shows the structure for key resources assigned to complete project tasks. The ER Program Management Plan (PMP) and project-specific Project Execution Plan (PEP) detail the roles and responsibilities for ER Program personnel above the project manager level. The following text outlines the responsibilities of key site personnel.

### 9.1 Environmental Restoration Program and Project Management

The following positions and associated roles and responsibilities are described in the ER PMP and the project PEP:

- Environmental Restoration manager of projects
- ER Program SH&QA manager
- Waste Area Group (WAG) 1 manager
- Project engineer
- Environmental Compliance support
- Quality engineer.

#### 9.1.1 Project Manager

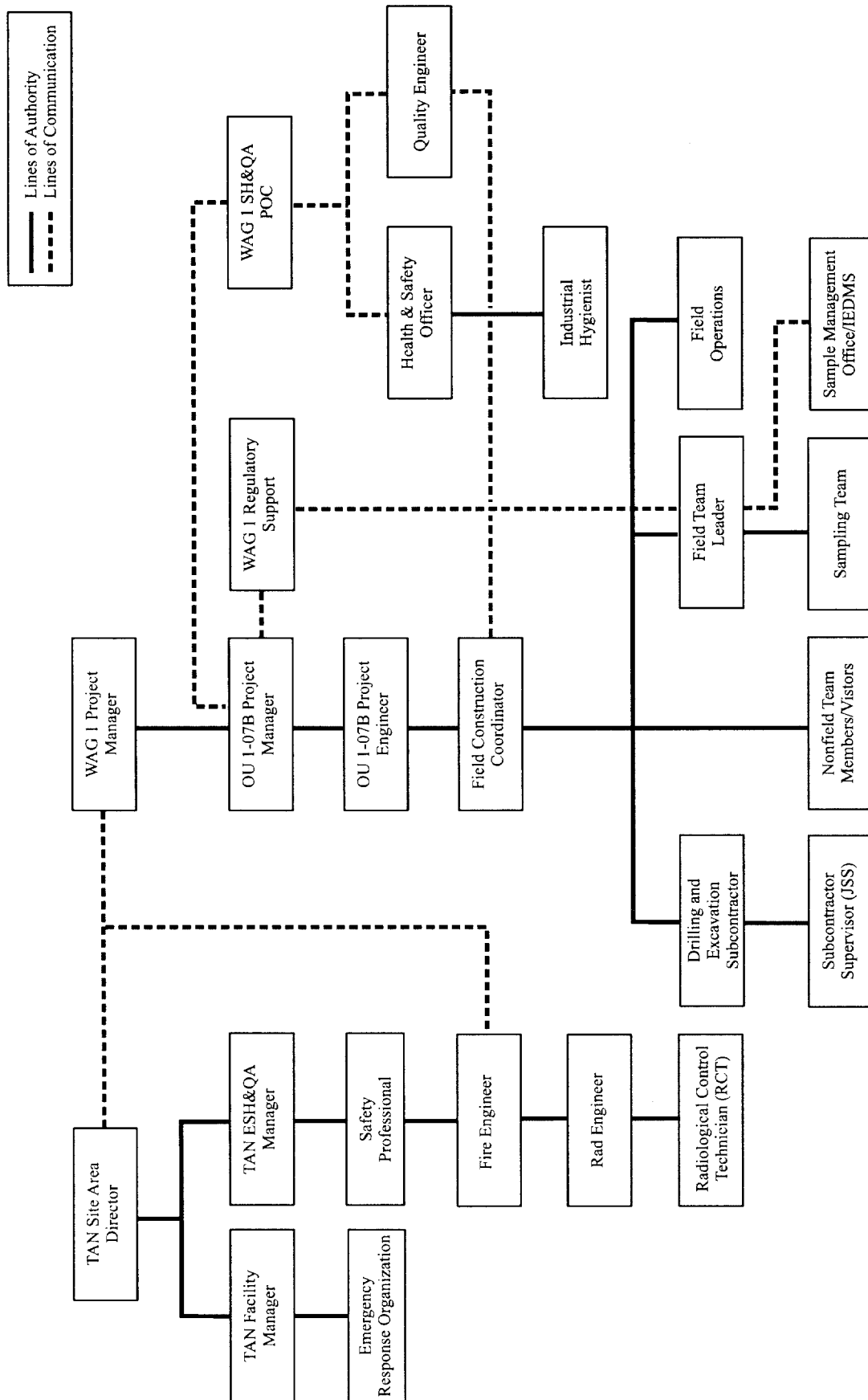
The project manager (PM) is responsible for developing and managing the project and coordinating ER project operations. The PM ensures that operations, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory* (DOE-ID 1991) compliance support, surveillance, and monitoring activities are conducted in accordance with INEEL MCPs and PRDs; all applicable OSHA, U.S. Environmental Protection Agency (EPA), DOE, U.S. Department of Transportation, and State of Idaho requirements have been met; and that tasks comply with PLN-694, "Environmental Restoration Program Management," and this HASP. The PM is responsible for the overall work scope, schedule, and budget for this project and reports to the ER WAG manager.

### 9.2 Task-Site Responsibilities

#### 9.2.1 Field Construction Coordinator

The FCC is the individual with the ultimate responsibility for the safe and successful completion of assigned project tasks. The FCC manages field operations, executes the work plan, enforces project control, documents project activities, and may conduct the pre-job safety briefings. Health and safety issues at the project must be brought to the FCC's attention. The FCC is also responsible for:

- Ensuring that all field tasks receive appropriate health and safety review prior to commencing, in accordance with STD-101, "Integrated Work Control Process"



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Figure 9-1. Field organization chart for the Long-Term Stewardship Operable Unit 1-07B project.

- Completing the hazards profile screening checklist per STD-101, “Integrated Work Control Process”
- Confirming that the necessary equipment and facilities to implement the provisions of this HASP are available
- Reporting the project status to the project engineer (PE)
- On small projects, possibly assuming the role of HSO with environment, safety, health, and quality assurance (ESH&QA) point of contact (POC) approval.

If the FCC leaves the project, an alternate will be appointed to act as the FCC. The acting FCC must meet all FCC training requirements outlined in Section 6 of this HASP. The identity of the acting FCC will be conveyed to project personnel, recorded in the FCC daily force report, and communicated to the facility representatives.

### **9.2.2 Field Team Leader**

The FTL has ultimate responsibility for the safe and successful completion of the sampling project. All health and safety issues at the work site must be brought to the FTL’s attention. In addition to managing field operations, executing the Field Sampling Plan (FSP), enforcing site control, documenting worksite activities, and conducting daily safety briefings, FTL responsibilities include, but are not limited to, the following:

- Complying with the technical and operational requirements of the sampling activities
- Conducting field analyses and decontamination activities
- Complying with equipment removal procedures
- Packaging and shipping samples
- Determining, in conjunction with the site IH and RCT, the level of PPE necessary for the task
- Ensuring compliance with field documentation, sampling methods, and chain-of-custody requirements
- Ensuring the safety of personnel conducting the activities associated with the FSP.

The FTL will serve as the sampling team leader. The FTL’s responsibilities may be transferred to a designated representative who satisfies all FTL training requirements outlined in Section 6.

### **9.2.3 Health and Safety Officer**

The HSO is the person assigned to the task site who serves as the primary contact for all health and safety issues. The HSO advises the FTL on all aspects of health and safety and is authorized to stop work at the task site if any operation threatens worker or public health or safety. The HSO is authorized to verify compliance to the HASP, conduct inspections and self-assessments, require and monitor corrective actions, and monitor decontamination procedures (as appropriate). The safety, health, and quality assurance (SH&QA) professionals at the task site (e.g., safety professional, IH, environmental coordinator, and facility representative) support the HSO.

Persons assigned as the HSO or alternate HSO must be qualified (in accordance with the definition in 29 CFR 1910.120) to recognize and evaluate hazards and will be given the authority to take or direct actions to ensure that workers are protected. While the HSO may also be the IH, safety professional, or in some cases the FTL (depending on the hazards and complexity of the activity involved), other task-site responsibilities of the HSO must not interfere with the primary role of the HSO at the task site.

If it is necessary for the HSO to leave the site, the HSO will appoint an alternate individual to fulfill this role and that person's identity will be communicated to project personnel.

#### **9.2.4 Industrial Hygienist**

The assigned IH is the primary source for information about exposure assessments for the project chemical, physical, and biological hazards at the task site. The IH assesses the potential for worker exposures to hazardous agents in accordance with companywide safety and health manuals, MCPs, and industry-accepted industrial hygiene practices and protocol. By participating in project planning, the IH assesses and recommends appropriate hazard controls for the protection of site personnel, operates and maintains airborne sampling and monitoring equipment, reviews engineering controls for effectiveness, and recommends and assesses the use of PPE required in this HASP (recommending changes as appropriate).

Personnel showing health effects (i.e., signs and symptoms) resulting from possible exposure to hazardous agents will be referred to an OMP physician by the IH, supervisor, or HSO. The IH may have other duties at the site, as specified in other sections of this HASP or in PRDs or MCPs.

#### **9.2.5 Safety Professional**

The assigned safety professional reviews work packages, observes site activity, assesses compliance with the companywide safety and health manuals, advises the FTL on required safety equipment, and recommends solutions to safety issues and concerns that arise at the task site. The safety professional may conduct periodic inspections in accordance with MCP-3449 and have other duties at the task site, as specified in other sections of this HASP or in PRDs and MCPs. Copies of any safety and health inspections will be kept in the project field file.

#### **9.2.6 Radiological Control Technician**

The assigned RCT is the primary source for information and guidance on radiological hazards that may be encountered during project tasks and the controls necessary to mitigate them. Responsibilities of the RCT include the following:

- Performing radiological surveying of the site, equipment, and samples
- Providing guidance for radioactive decontamination of equipment and personnel
- Accompanying the affected personnel to the nearest INEEL medical facility for evaluation if significant radionuclide contamination occurs.

The RCT must notify the FTL and HSO of any radiological occurrence that must be reported, as directed by *Manual 15A–Radiation Protection–INEEL Radiological Control Manual*.

### **9.2.7 Fire Protection Engineer**

A fire protection engineer is available to provide technical guidance to the HSO and FTL about all fire protection issues and may be assigned to review the work packages and conduct pre-operational and operational fire hazard assessments. The INEEL Fire Department may also need to be advised of fuel storage areas (if required) and will provide authorization for all hot work operations performed at the project site during times of high-to-extreme fire danger. The fire protection engineer is required to sign all safe work permits used as hot (radiological) work permits within the jurisdiction of the their facility site area director (SAD).

### **9.2.8 Sampling Team**

The sampling team will consist of the FTL and support personnel and is responsible for the collection, preservation, and shipping of all routine monitoring samples in accordance with the applicable FSP and TPRs. The IH and safety professional will support the sampling team, as required, based on site-specific hazards and task evolutions. The sampling team will be led by a sampling FTL who may also perform other roles during the project.

### **9.2.9 Subcontractor Supervisor**

Specialty subcontractors may be used to support tasks at the site. A subcontractor lead will serve as the single point of contact for all subcontractor communication at the site and will report to the FTL for all technical direction and interface issues at the project site. Subcontractor personnel will report any health and safety issues that arise to the FTL or HSO and may stop work if an unsafe condition exists. The subcontractor lead will also be asked to provide hazard and mitigation information about the nature of their equipment or operations during the POD meeting and may participate in job-site hazard walk downs (where appropriate).

### **9.2.10 Field Team Personnel**

All field team personnel, including facility and subcontractor support personnel assigned to the project, will understand and comply with the requirements of this HASP. The FTL (or designee) will conduct a formal pre-job briefing or POD meeting at the start of each shift. During the POD briefing, all daily tasks, associated hazards, hazard mitigation (e.g., engineering and administrative controls, required PPE, and work control documents), and emergency conditions and actions will be discussed. Input from the project HSO, IH, and safety personnel (where assigned) will be provided to clarify task health and safety requirements (as deemed appropriate). All project personnel are encouraged to ask questions about site tasks and provide suggestions on ways to perform required tasks in a more safe and effective manner based on the lessons learned from previous routine monitoring activities.

Once at the project site, field team personnel are responsible for identifying any potentially unsafe situations or conditions to the FTL or HSO for corrective action.

<p><b>Note:</b> If it is perceived that an unsafe condition poses an imminent danger, site personnel are authorized to stop work immediately and notify the FTL or HSO of the unsafe condition.</p>
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### 9.2.11 Non-Field Team Personnel

As defined by this HASP, all persons who may be at a project site and are not part of the field team (e.g., surveyors or others not assigned a field team support role) are considered non-field team personnel. A person will be considered onsite when they are present beyond the SZ boundary.

Non-field team personnel are considered occasional site workers in accordance with HAZWOPER and must receive site-specific HASP training before entering work areas at the project site unless there is no potential for exposure and safety hazards are mitigated (e.g., during down time). In such a case, a site orientation briefing covering potential safety and health hazards, required PPE, and emergency actions is required before being granted access to the area. A site supervisor (e.g., HSO or FTL) will supervise non-field team personnel who have not completed their 3 days of supervised field experience in accordance with HAZWOPER.

### 9.2.12 Visitors

All visitors with official business at the project site (including INEEL personnel, representatives of DOE, and state or federal regulatory agencies) may only proceed beyond the SZ after meeting the following requirements:

- Receiving site-specific HASP training or hazard briefing based on specific tasks taking place
- Signing a HASP training roster and providing proof of having met all training requirements specified in Section 6 (or required access training for the area to be visited when project tasks are not being conducted)
- Participating in a pre-job briefing in accordance with MCP-3003
- Providing objective evidence of PPE training and wearing the appropriate PPE for the area of the site to be accessed (29 CFR 1910.132).

If there is no potential for exposure to chemical, radiological, or safety hazards (e.g., during down time), a visitor may be escorted at the project site after receiving a site orientation consisting of:

- An overview of the controlled areas at the site and access restrictions
- Potential general site hazards and mitigation
- Required PPE for entry to the site (must be trained to wear required PPE)
- Emergency action to take in case of a take-cover or evacuation alarm.

**Note:** Visitors will not be allowed into controlled work areas (even with proper training) during certain tasks to minimize risks to visitors. The FTL in consultation with the HSO, safety professional, and RCT (as appropriate) will determine any visitor's need for access into the controlled work areas during such tasks.

A fully trained task-site representative (e.g., FTL or HSO [or a designated alternate]) will escort visitors when entering controlled areas of the project site, as site conditions warrant and as deemed appropriate by the FTL.

A casual visitor to the task site is a person who does not have a specific task to perform or other official business to conduct at the project site. Casual visitors are not permitted in work zones or designated work areas at any project site.

### **9.3 Test Area North Support Staff Responsibilities**

#### **9.3.1 Test Area North Site Area Director**

The TAN SAD reports to the director of site operations and interfaces with the facility operations manager. The TAN SAD is responsible for all activities and processes within the facility jurisdiction including oversight of work processes, planning, startup, and restart of operations.

#### **9.3.2 Test Area North Facility Manager**

The TAN facility manager is responsible for maintaining his or her assigned facility and must be cognizant of work being conducted in the facility. The TAN facility manager is responsible for the safety of personnel and the safe completion of all project activities conducted within his or her area. Therefore, the facility manager and TAN SS will be kept informed of all area activities via the POD. The SS and FCC/FTL will agree on a schedule for reporting work progress and plans for work. The SS may serve as advisor to project personnel with regard to the SS area of operation.

#### **9.3.3 Radiological Engineer**

The radiological engineer (RE) is the primary source of information and guidance relative to evaluation and control of radioactive hazards at the project. The RE will provide engineering design criteria, review containment structures, and make recommendations to minimize health and safety risks to project personnel. The RE will estimate radiation exposure and provide ALARA evaluations, identify the type(s) of radiological monitoring equipment necessary for the work, advise the FCC/FTL and RCT of changes in monitoring or PPE, and advise personnel on project evacuation and reentry. The RE may have other duties, as specified in other sections of this HASP or in *Manual 15B–Radiation Protection Procedures*.

#### **9.3.4 Environmental Restoration Director**

The ER director has the ultimate responsibility for the technical quality of all projects, maintaining a safe environment, and the safety and health of all personnel during field activities performed by or for the ER program. The ER director provides technical coordination and interfaces with the DOE-ID Environmental Support Office. The ER director ensures the following:

- Project/program activities are conducted according to all applicable federal, state, local, and company requirements and agreements
- Program budgets and schedules are approved and monitored to be within budgetary guidelines
- Personnel, equipment, subcontractors, and services are available
- Direction is provided for the development of tasks, evaluation of findings, development of conclusions and recommendations, and production of reports.

### **9.3.5 Long-Term Stewardship Project Manager**

The LTS project manager has the ultimate responsibility for ensuring the technical quality of all projects, a safe environment, and the safety and health of all personnel during field activities performed by or for the ER program. The LTS project manager provides technical coordination and interfaces with the DOE-ID Environmental Support Office. The LTS project manager ensures the following:

- Project/program activities are conducted according to all applicable federal, state, local, and company requirements and agreements
- Project budgets and schedules are approved and kept within budgetary guidelines
- Personnel, equipment, subcontractors, and services are available

### **9.3.6 Long-Term Stewardship Operable Unit 1-07B Project Manager**

The OU 1-07B PM will ensure that project activities comply with INEEL MCPs and PRDs as well as applicable OSHA, EPA, U.S. Department of Transportation, DOE, and State of Idaho requirements. Project tasks will comply with PLN-694, "Environmental Restoration Program Management." The OU 1-07B PM is responsible for the overall work scope, schedule, and budget. The OU 1-07B PM will ensure that all project activities comply with the following guidelines and regulations:

- Schedule and scope requirements, as described in PLN-694
- INEEL MCPs, PRDs, and TPRs
- "Environmental Restoration Program Management" (PLN-694)
- This project HASP
- All applicable OSHA, EPA, DOE, U.S. Department of Transportation, and State of Idaho requirements
- The Quality Assurance Project Plan (QAPjP) (DOE-ID 2002b) and FSP for this project
- Applicable Conduct of Operations requirements, and verifying the completion of the applicable hazards checklist and JSA, as required by MCP-3562, "Hazard Identification, Analysis, and Control of Operational Activities," or STD-101 requirements (as applicable).

Other functions and responsibilities of the PM include:

- Developing the documentation required to support the project
- Ensuring the technical review and acceptance of all project documentation
- Developing the site-specific plans required by the ER program, such as work plans; environment, safety, and health (ES&H) plans; and sampling and analysis plans
- Supporting CERCLA and National Environmental Policy Act public review and comment processes by identifying their requirements and scheduling for their organization



- Coordinating and interfacing with units within the program support organization on issues relating to quality assurance (QA), ES&H, and National Environmental Policy Act support for the project
- Coordinating site-specific data collection, review for technical adequacy, and input to an approved database, such as the Environmental Restoration Information System
- Coordinating and interfacing with subcontractors to ensure that milestones are met, adequate management support is in place, technical scope is planned and executed appropriately, and project costs are kept within budget.

The OU 1-07B PM will ensure that employee job function evaluations (Form 340.02) are completed for all project employees, reviewed by the project IH for validation, and submitted to the OMP for determination of necessary medical evaluations.

### **9.3.7 Environmental Restoration Safety, Health, and Quality Assurance Manager**

The ER SH&QA manager or designee reports directly to the ER director and is responsible for managing SH&QA resources, including:

- Ensuring that SH&QA programs, policies, standards, procedures, and mandatory requirements are planned for, scheduled, and implemented in the day-to-day ER operations through the WAG SH&QA POCs
- Directing SH&QA compliance in all activities by coordinating related functional entities and providing technical and administrative guidance through the WAG SH&QA POCs.

Under the direction of the ER director, the ER SH&QA manager represents the ER directorate in all SH&QA matters and is responsible for:

- ER SH&QA management compliance
- Oversight for all ER CERCLA and decontamination and dismantlement operations planned and conducted at WAGs 1, 2, 3, 4, 5, 6, 7, and 10
- ER INEEL-wide environmental monitoring activities.

The ER SH&QA manager manages staffing support of personnel and the coordination of programs related to the following technical disciplines:

- RadCon (TAN support)
- Industrial safety
- Fire protection
- Quality assurance
- Industrial hygiene (matrixed)
- Emergency preparedness (matrixed).

### **9.3.8 Project Engineer**

The OU 1-07B PE is responsible for the execution of the project's technical work. This includes, but is not limited to, the following:

- Supervising engineers to ensure that engineering and design services are timely and cost-effective in accordance with project orders and directives, using sound engineering practices and high technical standards
- Providing technical resource and schedule integration, establishing priorities, and identifying and requesting resources necessary to accomplish work objectives for all assigned engineering and design activities
- Ensuring that the work directions are clear, concise, and executable by working with the customer and the PM to establish firm project and task requirements
- Developing project technical execution strategy and ensuring that cost-effective design solutions are developed in accordance with safety, environmental, and quality objectives
- Reviewing project status and variance and providing corrective actions
- Resolving conflicts regarding project requirements and project team members' comments on design, including defending and selling design positions to the project team and the Agencies
- Coordinating all ER project designs with the appropriate SAD's engineering manager.

In addition, the PE is responsible for the project's technical staffing. This will include serving as an interface between the PM and the appropriate functional managers of the organizations providing the technical staff. The PE will be accountable to the PM for cost and schedule of the assigned technical tasks and to the functional managers for the technical quality of project work products.

### **9.3.9 Operable Unit 1-07B Environment, Safety, Health, and Quality Assurance Point of Contact**

The OU 1-07B ESH&QA point of contact or designee is responsible for managing ESH&QA resources to ensure that ESH&QA programs, policies, standards, procedures, and mandatory requirements are included in plans and schedules and are implemented during OU 1-07B daily operations. The ESH&QA POC directs the ESH&QA compliance activities by providing technical direction and guidance to project staff and through coordination with related TAN ESH&QA professionals. The OU 1-07B LTS ESH&QA POC reports directly to the OU 1-07B manager and represents OU 1-07B in all ESH&QA matters and assists the OU 1-07B PM in being responsible for ESH&QA compliance and oversight for CERCLA operations planned and conducted at TAN.

The OU 1-07B ESH&QA point of contact is responsible for ensuring that the following positions are filled:

- RCT/RE
- HSO
- Fire protection engineer, as required

- Quality engineer
- IH.

**9.3.9.1 Environmental Regulatory Support.** The WAG 1 regulatory support representative oversees, monitors, and advises the PM and PE on environmental issues and concerns regarding task-site activities and reports to the WAG 1 manager. The regulatory support person is responsible for:

- Ensuring compliance with DOE orders, EPA regulations, and other regulations concerning the effects of task-site activities on the environment
- Providing surveillance support for hazardous waste storage and transport
- Assisting the PE in completing the hazards profile screening checklist.

**9.3.9.2 Integrated Environmental Data Management System Technical Leader.** The Integrated Environmental Data Management System (IEDMS) technical leader will interface with the PM during the preparation of the IEDMS database required by PRD-5030, “Environmental Requirements for Facilities, Processes, Materials, and Equipment.” In addition, the IEDMS technical leader will:

- Provide guidance on the appropriate number of field quality control samples required by the QAPjP (DOE-ID 2002b) and the appropriate bottle size and preservation for sample collection
- Ensure that the sample identification numbers used by the project are unique from all others ever assigned by IEDMS.

Preparing the plan database and completing the Sample and Analysis Management request for services form initiates the Sample and Analysis Management sample and sample waste tracking activities.

**9.3.9.3 Environmental Restoration Program Coordination Manager.** The Environmental Restoration Program Coordination manager is responsible for:

- Managing environmental compliance resources to ensure that environmental compliance requirements are planned for and implemented in the day-to-day ER program operations at the INEEL
- Directing all environmental compliance activities (provides technical and administrative direction to subordinate staff and coordinates with related functional entities).

The Environmental Restoration Program Coordination manager reports directly to the ER director and, under the direction of the ER director, represents the ER directorate in all environmental compliance matters.

**9.3.9.4 Quality Engineer.** The QA engineer provides guidance on task-site quality issues, when requested, and is responsible for:

- Observing task-site activities and verifying that task-site operations comply with quality requirements pertaining to these activities
- Identifying activities that do not or potentially will not comply with quality requirements and suggesting corrective actions.

**9.3.9.5 Sample and Analysis Management.** The INEEL Sample and Analysis Management will obtain laboratory services, as required, and ensure that the generated data meet the needs of the project by validating all analytical laboratory data according to resident protocol and ensuring that data are reported to project personnel in a timely fashion, as required by the *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory* (DOE-ID 1991).

The assigned Sample and Analysis Management representative is responsible for:

- Interfacing with the PM or designee during the preparation of the sampling and analysis plan database, as required by PRD-5030, “Environmental Processes for Facilities, Processes, Materials, and Equipment.”
- Providing guidance on the appropriate number of field quality control samples required by the QAPjP (DOE-ID 2002b).
- Providing guidance on the appropriate bottle size and preservation for sample collection.
- Ensuring that the sample identification numbers used by the project are unique from all others ever assigned by the IEDMS. The Sample and Analysis Management representative supports the IEDMS technical leader in completing these last two responsibilities.

The preparation of the plan database, along with the completion of the Sample and Analysis Management services request form (Form 435.26), initiates the sample and sample waste tracking activities performed by Sample and Analysis Management.

The Sample and Analysis Management-contracted laboratory will have overall responsibility for laboratory technical quality, laboratory cost control, laboratory personnel management, and adherence to agreed-upon laboratory schedules.

## 10. EMERGENCY RESPONSE PLAN

This emergency response plan defines the roles and responsibilities of project personnel during an emergency. Such an emergency could be at the project site, on a tenant facility or collocated facility, or a Sitewide emergency. This section provides details of the INEEL Emergency Response Organization (ERO) and “INEEL Emergency Plan RCRA Contingency Plan” (PLN-114) information. The “INEEL Emergency Plan RCRA Contingency Plan” (PLN-114) describes the overall process developed to respond to and mitigate consequences of emergencies that might arise at the INEEL.

The “INEEL Emergency Plan RCRA Contingency Plan” (PLN-114) may be activated in response to events occurring at the project site, at the INEEL, or at the discretion of the emergency coordinator or emergency action manager. Once the INEEL plan is activated, project personnel will follow the direction and guidance communicated by the emergency coordinator.

**Note:** The OSHA HAZWOPER definition of an emergency is not defined the same as classified by DOE Orders 151.1A, “Comprehensive Emergency Management System,” and 232.1A, “Occurrence Reporting and Processing of Operations Information.” For this reason, the term “event” will be used in this section when referring to project HAZWOPER emergencies.

### 10.1 Pre-Emergency Planning

The “INEEL Emergency Plan RCRA Contingency Plan” (PLN-114) provides the basis for pre-planning all INEEL emergency events. This base plan is supplemented with INEEL facility-specific addendums. Pre-planning makes it possible for the project to anticipate and appropriately respond to abnormal events that can affect project activities. Pre-planning also ensures that the project emergency response program is integrated with that of the INEEL. Specific procedures for addressing emergency events and actions to be taken are further described in the facility-specific emergency-implementing procedures. Finally, the HASP addresses project-specific hazards, potential emergency events, and the actions to take following such events.

Per MCP-2725, “Field Work at the INEEL,” the TAN ERO will ensure that personnel performing fieldwork are notified via radio or pager of emergency conditions and appropriate actions. The FCC/FTL or HSO are required to be available and able to communicate with field workers at all times. The routes to TAN medical facilities will be reviewed prior to the start of each task.

### 10.2 Emergency Preparation and Recognition

The sections for hazards identification and mitigation and accident prevention provided the strategy that will be followed at the project site to prevent accidents. Similarly, emergency preparation and recognition will also require project personnel to be constantly alert for potentially hazardous situations and signs and symptoms of chemical exposure or releases. All field personnel should be familiar with the techniques for hazard recognition and the assigned action levels and associated actions to be taken, as identified in Section 3.

The requirements of MCP-2725, “Field Work at the INEEL,” for training, emergency actions, and notifications will be followed for all projects conducted outside facility boundaries.

Preparation and training on emergencies will include proper site access and egress procedures in response to project events and INEEL emergencies as part of the project-specific HASP training and facility access training (where applicable). Visitors will also receive this training on a graded approach

based on their site access requirements. Visitor training will include alarm identification, location and use of communication equipment, location of site emergency equipment, and evacuation. Emergency phone numbers and evacuation route maps will be located in the project trailer.

On-scene response to and mitigation of site emergencies could require the response from both project personnel and INEEL Fire Department personnel. Emergencies could include the following scenarios:

- Accidents resulting in injury
- Accidents resulting in radiological exposures
- Fires
- Explosions
- Spills of hazardous or radiological materials
- Tornadoes, earthquakes, or other adverse natural phenomena
- Vehicle or transportation emergencies
- Safeguard and security emergencies
- Emergencies at nearby facilities that could prompt evacuation or take-cover actions at the task site.

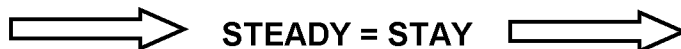
## 10.3 Emergency Alerting, Responses, and Sheltering

### 10.3.1 Alarms

Alarms and signals are used at the project site and the INEEL to notify personnel of abnormal conditions that require a specific response. Responses to these alarms are addressed in general employee training. Emergency sirens located throughout the INEEL serve as the primary means for signaling emergency TAKE COVER or EVACUATION protective actions. To signal site personnel of a project-initiated emergency event, a separate set of emergency signals has been established based on horn blasts (e.g., vehicle or air horn).

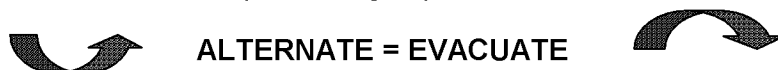
Depending of the field location (within or outside a facility), facility alarms may not be audible at the project site. If the project site is outside the audible range of the facility alarms, then the notification to take cover or evacuate should be received on the field radio. The project signals will then be used to alert personnel of the emergency actions.

**10.3.1.1 Take Cover—Continuous Siren.** Radiation or hazardous material releases, adverse weather conditions, or other event or emergency conditions may require that all personnel take cover indoors in the nearest building. A TAKE COVER protective action may be initiated as part of a broader response to an emergency situation and may precede an evacuation order. The order to TAKE COVER is usually announced by activating the emergency siren. The signal to take cover is a CONTINUOUS SIREN.



However, the order to take cover can also be given by word of mouth, radio, or voice paging system. When ordered to TAKE COVER, project personnel will place the site and equipment in a safe configuration (as appropriate) and then seek shelter in the project trailer or vehicle (if outside the facility). Eating, drinking, and smoking are not permitted during take-cover conditions.

**10.3.1.2 Total Area Evacuation—Alternating Siren.** A total area evacuation is the complete withdrawal of personnel from the project site and the entire facility area. The evacuation signal is an ALTERNATING SIREN. When ordered to EVACUATE, project personnel will place equipment and the site in a safe configuration (as appropriate) and then proceed along the specified evacuation route to the designated assembly area or as directed by the emergency coordinator.



For total area evacuations, the facility command post is activated and all personnel will gather at the primary facility evacuation assembly area or the location designated by the emergency coordinator or FTL if outside a facility. The FTL or trained alternate will then complete the personnel accountability using the attendance log. In this situation, the project area warden will report the results of the accountability process to the facility emergency coordinator.

**10.3.1.3 Local Area Evacuation—Vehicle Horn Blast.** A local area evacuation is the complete withdrawal of personnel from the project site, but it does not require the complete evacuation of the entire facility or INEEL area. A single long horn blast (e.g., vehicle) will serve as the project's primary emergency evacuation signal (as listed on Table 10-1). However, the order to evacuate can also be given by word of mouth, radio, or voice paging system. When ordered to evacuate the project site, personnel will place the site in a safe condition (as appropriate) and then proceed along the specified evacuation route to the assembly area designated for local area evacuations or as directed by the FTL. Eating, drinking, and smoking are not permitted during emergency evacuations.

Table 10-1. Project internal emergency signals.

Device or Communication Method	Signal and Associated Response
Vehicle horn blasts	<p><b><u>One long blast</u></b>—Emergency evacuation, evacuate project site immediately. Proceed in an upwind direction to designated assembly area as specified by the field team leader.</p> <p><b><u>Two short blasts</u></b>—Non-emergency evacuation of immediate work area. Proceed to designated assembly area as specified by the field team leader.</p> <p><b><u>Three long blasts</u></b> or verbally communicated—All clear, return to project site.</p>

## 10.4 Personnel Roles, Lines of Authority, and Training

### 10.4.1 The Idaho National Engineering and Environmental Laboratory Emergency Response Organization

The INEEL ERO structures are based on the Incident Command System and are described in PLN-114 and facility-specific addendums to that plan.

## 10.4.2 Role of Project Personnel in Emergencies

Depending on the event, a graded response and subsequent notifications will take place. Responsibilities of the FTL and project personnel are described below. Personnel will respond to emergencies only within the limits of their training and designated by their position. All personnel are trained to the facility-specific emergency actions as part of the access training or will be escorted by someone who has been trained. Emergency response actions will also be covered as part of the HASP briefing, as stated in Table 6-1.

**10.4.2.1 Field Team Leader.** The FTL (or designated alternate) is responsible for initiating all requests for emergency services (e.g., fire and medical) and for notifying the TAN shift supervisor of abnormal (or potential emergency) events that may occur during the project. The FTL may also serve as the area warden (or designate that responsibility to another person who has been trained as area warden) and conduct personnel accountability. Personnel accountability will then be reported to the shift supervisor. In addition, the FTL will control the scene until a higher-tiered Incident Command System authority arrives at the scene to take control. When relinquishing this role, the FTL (or designated alternate) will provide all information about the nature of the event, potential hazards, and other information requested.

**10.4.2.2 Project Personnel.** Every person at the project site has a role to play during a project event or INEEL emergency. Each employee must be constantly aware of potential problems or unexpectedly hazardous situations and immediately report these situations to the FTL. All personnel are expected to watch out for their fellow workers, to report their concerns to the FTL, and to take emergency actions as described in this section. Roles and responsibilities are further detailed in Table 10-2.

Table 10-2. Responsibilities during an emergency.

Responsible Person	Action Assigned
Field team leader (or designee)	Signal evacuation. Report spill to shift supervisor and take mitigative actions. <sup>a</sup> Report incipient fires to the INEEL Fire Department. Contact shift supervisor or Warning Communications Center (if the shift supervisor cannot be contacted).
Field team leader (or trained designee)	Serve as area warden and conduct accountability and report to shift supervisor.
Health and safety officer and medic and first-aid-trained personnel	Administer first-aid to victims (voluntary basis only).

a. The shift supervisor or emergency coordinator will contact the environmental affairs spill response categorization and notification team.

**10.4.2.3 Personnel Accountability and Area Warden.** Project personnel are required to evacuate the site in response to TAKE COVER, EVACUATION, and local evacuation alarms. In all cases, the FTL (or trained designee) will account for the people present on the project site. The FTL (or trained alternate) will serve as the area warden for the project and will complete the personnel accountability (following positive sweeps of the project site) based on the attendance log. The results of this accountability will then be communicated to the FTL for reporting to the SS or emergency coordinator (if the command post has been formed).



**10.4.2.4 Spills.** If the material spilled is known and is small enough to be safely contained at the task site, task-site personnel will handle spill control using spill supplies at the site and will immediately report the incident to the SS or WCC if the SS cannot be contacted. Reporting requirements will be determined by the facility emergency coordinator in accordance with MCP-190, “Event Investigation and Occurrence Reporting.” If any release of a hazardous material occurs, task-site personnel will comply with the following immediate spill response actions.

**10.4.2.4.1 Untrained Initial Responder—**The requirements for the untrained initial responder (or if the material characteristics are unknown) are listed below:

- Place equipment in a safe configuration
- **Evacuate** and **isolate** the immediate area
- Notify and then **seek help** from and **warn** others in the area
- Notify the FTL.

**10.4.2.5 Trained Responder.** The requirements for the trained responder where material characteristics are known and no additional PPE is required are listed below:

- Place all equipment in a secure configuration
- **Seek help** from and **warn** others in the area
- **Stop** the spill if it can be done without risk (e.g., returning the container to the upright position, closing valve, and shutting off power)
- **Provide** pertinent information to the FTL
- **Secure** any release paths if safe to do so.

## 10.5 Medical Emergencies and Decontamination

Medical emergencies and responses to injuries or suspected exposures will be handled as stated in Section 8.2. Decontamination of personnel and equipment is described in Section 11.2.

## 10.6 Emergency Communications

In the event of an emergency, the capability to summon INEEL emergency response resources to immediately notify site personnel and inform others of site emergencies is required. Communications equipment at the task site will be a combination of radios, telephones (e.g., mobile, cellular, or facility), and pagers. Communication methods described below will be used during emergency situations.

### 10.6.1 Notifications

During emergency situations, the facility SS will be notified of any project emergency event. The SS will then make the required ERO notification. The following information should be communicated, as available, to the SS:

**Note:** If the SS cannot be contacted, then the WCC will be notified of the event and the information listed below communicated. The WCC must also be told that notification to the facility SS and emergency coordinator has not been made.

- The caller's name, title (e.g., FTL or HSO), telephone number, and pager number
- Exact location of the emergency
- Nature of the emergency including time of occurrence, current site conditions, and special hazards in the area
- Injuries (if any) including numbers of injured, types of injuries, and conditions of injured
- Emergency response resources required (e.g., fire, hazardous material, and ambulance)
- Additional information as requested.

## 10.7 Emergency Facilities and Equipment

Emergency response equipment maintained at the project site includes the items listed in Table 10-3. The TAN facility-specific addendum to PLN-114 lists emergency equipment available at the facility. This includes the command post, self-contained breathing apparatus, dosimeters, air samplers, decontamination and first-aid equipment, and an emergency response trailer. The INEEL Fire Department maintains an emergency hazardous material response van that can be used to respond to an event or emergency at the project. The INEEL Fire Department personnel are also trained to provide immediate hazardous material spills and medical services. In addition, medical personnel at the CFA-1612 medical facility evaluate and stabilize injured personnel or those experiencing signs and symptoms of exposure.

## 10.8 Evacuation Assembly Areas and Central Facilities Area Medical Facility

The TAN facility maintains primary and secondary evacuation routes and assembly areas (see Figure 10-1). These routes may be used in response to a total facility area evacuation, as directed by the emergency coordinator. Also shown in Figure 10-1 is the location of the TAN medical facility. Copies of the evacuation assembly areas and the CFA-1612 medical facility route are posted in the NPTF and the ISB Laboratory Trailer.

**Note:** If the project is conducted outside of a facility, then the INEEL evacuation routes listed in PLN-114 will be used.

Table 10-3. Emergency response equipment to be maintained at the project site during operations.

Equipment Name and Quantity Required	Location at Task Site	Responsible Person	Frequency of Inspection or Verification
First-aid kit	Project Vehicle NPTF ISB Lab Trailer	HSO	Monthly: check seal only unless broken
Eyewash bottles <sup>a</sup> Eyewash station <sup>a</sup>	Project Vehicle NPTF ISB Lab Trailer	HSO	Monthly
Hazardous materials spill kit	Project Vehicle NPTF ISB Lab Trailer	HSO	Daily verification
Extra personal protective equipment	Project Vehicle NPTF ISB Lab Trailer	HSO	Daily verification
Communication equipment (operational)	Onsite	FCC/FTL	Daily radio check
Fire extinguishers <sup>b</sup>	Project Vehicle NPTF ISB Lab Trailer	HSO	Monthly

a. An eyewash bottle will be used to provide an immediate eye flush (if required). The HSO will identify the location of the eyewash station during the pre-job briefing. Eyewash stations shall be maintained and inspected per MCP-3807.

b. A minimum of one 10A/20BC fire extinguisher is required. If it is discharged, it will be returned for servicing and recharging.

FCC = field construction coordinator

FTL = field team leader

HSO = health and safety officer

ISB = in situ bioremediation

MCP = management control procedure

NPTF = New Pump and Treat Facility

## 10.9 Reentry, Recovery, and Site Control

All reentry and recovery activities will follow general site security and control requirements identified in Section 7 unless conducted as part of an emergency response action. All entries to the project site performed in support of emergency actions will be controlled by the on-scene commander.

### 10.9.1 Reentry

During an emergency response, it is sometimes necessary to reenter the scene of the event. Reasons for performing a reentry may include:

- Performing personnel search and rescues
- Responding to medical first-aid needs
- Performing safe shutdown actions

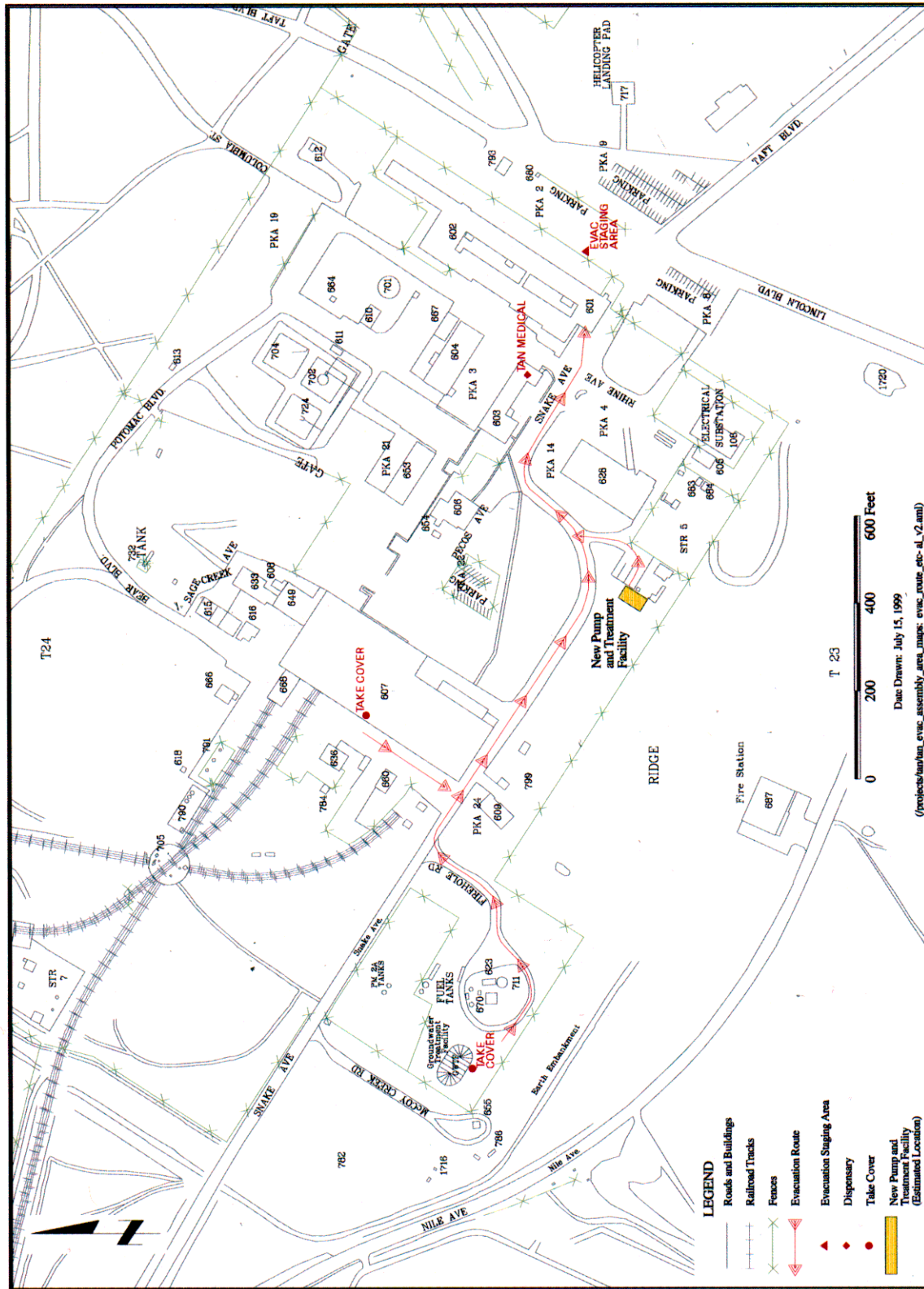


Figure 10-1. Map showing the route to the Test Area North medical facility, locations of nearby Idaho National Engineering and Environmental Laboratory fire stations, site and facility evacuation routes, and evacuation pickup locations.

- Performing mitigative actions
- Evaluating and preparing damage reports
- Performing radiation or hazardous material surveys.

Reentries will be carefully planned to ensure that personnel are protected from harm and to prevent initiating another emergency event. Reentry planning is undertaken as a graded approach depending on the nature of the initiating event.

### **10.9.2 Recovery**

After the initial corrective actions have been taken and effective control established, response efforts will shift toward recovery. Recovery is the process of assessing post-event and post-emergency conditions and developing a plan for returning to pre-event and pre-emergency conditions (when possible) and following the plan to completion. The emergency coordinator and emergency action manager are responsible for determining when an emergency situation is sufficiently stable to terminate the emergency and enter the recovery phase. The PM, with concurrence from the area SAD, will appoint the recovery manager.

## **10.10 Critique of Response and Follow-up**

A review and critique will be conducted following all emergency events, drills, and exercises at the INEEL. In some cases, an investigation may be required before commencing recovery actions. For this reason, care should be exercised to preserve evidence (when appropriate).

## **10.11 Telephone and Radio Contact Reference List**

Table 10-1 lists the points of contact for the project. A copy of this list will be kept in the FTL logbook. Because personnel listed may change frequently, working copies of this list will be generated as required to note new positions and changes of assigned personnel. This HASP should not be revised with a DAR to note these changes.

Table 10-4. Project emergency contact list.

Contact Title	Contact Name	Phone Number/ Radio Net	Pager Number
Warning Communications Center	—	777, 6-1515, “KID-240”	—
TAN emergency coordinator	—	6-6128 or 6-0377	—
TAN shift supervisor	—	6-9507	7414
TAN/INTEC site area director	Riley Chase	6-0018 521-6916 (cell)	5669
TAN/INTEC ES&H manager	Corrinne Jones	6-8079	5728
TAN facility manager	Kevin Streeper	6-6151	5032
First-Aid (TAN medical dispensary)	—	777, 6-6763	—
Occupational Medical Program	—	6-1596	—
Fire/Security		777	—
OU 1-07B field construction coordinator/field team leader (others may be designated based upon task to be performed)	Kory Edelmeyer	6-7461	4793
LTS project manager	Andrew Baumer	6-3238 521-7849 (cell)	3482
OU 1-07B project manager	Lee Nelson	6-3093 520-5076 (cell)	—
OU 1-07B project engineer	Lisa Harvego	6-0473 521-0182 (cell)	7905
TAN radiological engineer	Wayne Kanady	6-5904	5542
TAN industrial hygienist	Shaun Comba	6-9681	7718
WAG 1 industrial hygienist	Jonathan Roberts	6-5386	3351
WAG 1 safety engineer	Kerry Briar	6-5214	6627
Health and safety officer	Kerry Briar	6-5214	6627
WAG 1 ESH&QA POC	Kerry Briar	6-5214	6627
WAG 1 regulatory support	William Becker	6-4871	7637
ER SH&QA manager	Charles Chebul	6-9566	5689
TAN DOE-ID facility representative	James Wolski	6-2633	9461

DOE-ID = U.S. Department of Energy Idaho Operations Office  
ER = Environmental Restoration  
ES&H = environment, safety, and health  
ESH&QA = environment, safety, health, and quality assurance  
INTEC = Idaho Nuclear Technology and Engineering Center  
LTS = long-term stewardship  
OU = operable unit  
POC = point of contact  
SH&QA = safety, health, and quality assurance  
TAN = Test Area North  
WAG = waste area group

**Note:** This table may be revised as personnel responsibilities change due to continuous staffing changes. Changes, however, will be posted at the task site. The HASP will not be revised to reflect changes to the list except at major revisions.

## 11. DECONTAMINATION PROCEDURES

Every effort will be made to prevent contamination of personnel and equipment through the use of engineering controls, isolation of source materials, contaminant monitoring, personnel contamination control training, and by following material-handling requirements and procedures for contaminated or potentially contaminated materials. If contact with potentially contaminated surfaces cannot be avoided, then additional engineering controls in combination with PPE upgrades may be necessary to control the contact hazard.

All decontamination will be performed in accordance with the *Interim Decontamination Plan for Operable Unit 1-07B* (INEEL 2002b). All personnel, clothing, equipment, and samples leaving an exclusion zone (contaminated or potentially contaminated area) will be decontaminated to remove any harmful substances that may have adhered to them. All PPE and decontamination materials contacting groundwater will be considered F001-listed hazardous waste and will be disposed of in accordance with MCP-3480, “Environmental Instructions for Facilities Processes, Materials and Equipment,” and the *Waste Management Plan for Test Area North Final Groundwater Remediation Operable Unit 1-07B* (INEEL 2002c). Some equipment may be disposed of rather than decontaminated. This section provides guidelines for decontamination procedures to be implemented at the task sites. Details for decontaminating materials associated with this project are addressed in the *Interim Decontamination Plan for Operable Unit 1-07B* (INEEL 2002b) and will be conveyed to project personnel during the project-specific health and safety briefing held prior to commencing field activities.

As applicable, all personnel will be surveyed for radioactive contamination prior to exiting the radiological control work area. Readings 100 counts above background will require that the person immediately notify the FCC/FTL and RCT. The RCT will be responsible for all radiological decontamination efforts at the task site.

### 11.1 Contamination Control and Prevention

Contamination control and prevention procedures will be implemented to minimize personnel contact with contaminated surfaces (if such surfaces are encountered or may be contacted during project tasks). The following contamination control and prevention measures will be employed if contamination is encountered or anticipated:

- Identify potential sources of contamination and design containment, isolation, and engineering controls to eliminate or mitigate any potential for contact or release of contaminants
- Limit the number of personnel, equipment, and materials that enter the contaminated area
- Implement immediate decontamination procedures to prevent the spread of contamination (if contamination is found on the outer surfaces of equipment)
- Use only the established control entry and exit point from the contaminated area to minimize the potential for cross-contamination and expedite contamination control surveys
- Wear disposable outer garments and use disposable equipment (where possible)
- Use hold points defined in procedures and work orders to monitor for contamination where anticipated.

## **11.2 Doffing Personal Protective Equipment and Equipment Decontamination**

No personnel decontamination beyond doffing of PPE is anticipated for this project. If contamination is detected on outer PPE layers, careful removal of these outer PPE layers will generally eliminate over 99% of contamination and will serve as the primary decontamination method. Removal of contaminated protective clothing using standard radiological doffing techniques (rolling outer surfaces inward while removing the clothing) provides the most effective method for containing and isolating the contaminants and greatly reduces the potential for exposure to other personnel who would be put at risk of cross-contamination from other decontamination methods (e.g., washing and brushing). Personnel will be trained to properly use project-specific PPE in accordance with PRD-2001, "Personal Protective Equipment." The PPE doffing procedures will be posted at the CRZ.

Some preliminary surface decontamination of protective clothing may be required if it is grossly contaminated and could generate airborne radioactivity or organic vapor emissions. This will involve assistance from other personnel inside the contamination area and at the doffing station. The ultimate goal of all decontamination methods is to effectively and efficiently isolate the source of contamination through removal of protective clothing and containment in a sealed bag or waste container.

The specific doffing sequence of modified Level D or C PPE and any required decontamination will be based on the nature of the contamination and specific project site configuration. However, there is no one doffing strategy that works in all circumstances and modifications to this approach are appropriate if site conditions change or at the discretion of the project HSO in consultation with the project IH and TAN RadCon personnel. Radiological and non-radiological (chemical) hazards will both be evaluated.

### **11.2.1 Equipment Decontamination**

Decontamination of equipment used to support the OU 1-07B project will be conducted in accordance with the *Interim Decontamination Plan for Operable Unit 1-07B* (INEEL 2002b).

### **11.2.2 Personnel Decontamination**

Project activities will be conducted in Level D PPE, unless upgrading is warranted. Engineering controls in conjunction with work controls and proper handling of samples will serve as the primary means to eliminate the need for personnel decontamination. If modified Level D protective clothing is required, all items will be inspected following the list in Section 5.

### **11.2.3 Decontamination in Medical Emergencies**

If a person is injured or becomes ill, first-aid-trained personnel (on a voluntary basis) at the project task site will immediately evaluate that person. If the injury or illness is serious, then the FTL will contact the TAN shift supervisor or WCC (if the shift supervisor cannot be reached) to summon emergency services (i.e., fire department and CFA medical services) to the project site.

Medical care for serious injury or illness will not be delayed for decontamination. In such cases, gross decontamination may be conducted by removing the injured person's outer protective clothing (if possible) and other contaminated areas may be contained with a bag or glove. If contaminated PPE cannot be removed without causing further injury (except for the respirator, which must be removed), the individual will be wrapped in plastic, blankets, or other available material to help prevent contaminating the inside of the ambulance, medical equipment, and medical personnel.



The IH or RCT (depending on the type of contamination) will accompany the employee to the medical facility to provide information and decontamination assistance to medical personnel. Contaminated PPE will then be removed at the Central Facilities Area (CFA) medical facility and will be carefully handled to prevent the spread of contamination. Chapter 5 of *Manual 15B–Radiation Protection Procedures* and MCP-148, “Personnel Decontamination,” contains information on proper handling of radionuclide-contaminated wounds.

## **11.3 Disposal of Contaminated Personal Protective Equipment and Equipment**

### **11.3.1 Storage and Disposal of Contaminated Materials**

All waste streams generated from the OU 1-07B project will be handled, stored, and disposed of in accordance with the *Waste Management Plan for Test Area North Final Groundwater Remediation Operable Unit 1-07B* (INEEL 2002c).

### **11.3.2 Project Sanitation and Waste Minimization**

Site personnel will use toilet facilities located in or around the TAN operations area. Potable water and soap will also be available within the operations area at the site for personnel to wash their hands and face upon exiting the work area. Any required radionuclide contamination surveys will be done before washing face and hands to prevent accidental spread of contamination.

Waste materials will not be allowed to accumulate at the task site. Appropriate containers for contaminated and non-contaminated waste will be maintained within the EZ, in the SZ, and at other appropriate locations at the task site. All waste generated within established contamination areas (or as deemed appropriate by TAN RadCon personnel) must be surveyed before removal from the task site. Personnel should make every attempt to minimize waste through judicious use of consumable materials. All site personnel are expected to make good housekeeping a priority at the job site.

## **12. RECORDKEEPING REQUIREMENTS**

### **12.1 Industrial Hygiene and Radiological Monitoring Records**

When Industrial Hygiene support is required, the IH will record airborne monitoring and sampling data (both area and personal) on the INEEL Hazards Assessment and Sampling System database. All Industrial Hygiene monitoring and sampling equipment will be maintained and calibrated per INEEL procedures and the manufacturer's specifications. Industrial hygiene airborne monitoring and sampling exposure assessment data are treated as limited access information and are maintained by the IH per INEEL safety and health manual procedures. Any airborne monitoring or sampling done by non-IH or non-safety personnel will be documented in a project-controlled logbook and will be reviewed by the IH.

The RCT maintains a daily logbook of radiological monitoring, daily project operational activities, and instrument calibrations. Radiological instrumentation daily response checks are completed and recorded in accordance with applicable MCPs or TPRs. Radiological monitoring records are maintained in accordance with *Manual 15B–Radiation Protection Procedures*.

Project personnel, or their representative, have a right to both IH and RCT monitoring and sampling (both area and personal) data. Results from monitoring data will also be communicated to all field personnel during daily POD meetings and formal pre-job briefings, in accordance with MCP-3003.

### **12.2 Field Team Leader and Sampling Logbooks**

Logbooks will be maintained in accordance with TPR-4910, "Logbook Practices for ER and D&D&D Projects." The FTL/FCC will keep a record of daily site events in the FTL/FCC logbook and will maintain accurate records of all personnel (e.g., workers and non-workers) who are onsite each day in a site attendance logbook. Logbooks must be obtained from the field data coordinator for the INEEL Sample and Analysis Management. The completed logbooks must be returned to the INEEL Sample and Analysis Management within 6 weeks of project completion. The logbooks are then submitted to ER Document Control.

### **12.3 Environmental Restoration Document Control**

The ER Document Control organizes and maintains data and reports generated by ER Program field activities. The ER Document Control maintains a supply of all controlled documents and provides a documented system for the control and release of controlled documents, reports, and records. Copies of the project plans for ER, this HASP, the ER Program Management Plan (PLN-694), the QAPjP (DOE-ID 2002b), and other project-specific documents are maintained in the project file by ER Document Control. Completed sample logbooks are submitted to Sample and Analysis Management within 6 weeks of project completion. All other project records and logbooks, except Industrial Hygiene logbooks, must be forwarded to the Administrative Record and Document Control within 30 days after completion of field activities.

### **12.4 Site Attendance Record**

The site attendance record will be used to keep a record of all personnel (i.e., field team members and non-field team members) onsite each day and to assist the area warden with conducting personnel accountability should an evacuation take place (see Section 10 for emergency evacuation conditions). Personnel will only be required to sign in and out of the attendance record once each day. The FCC is responsible for maintaining the site attendance record and for ensuring that all personnel on the project site sign in (if required).

### 13. REFERENCES

- 10 CFR 835, 2002, "Occupational Radiation Protection," *Code of Federal Regulations*, Office of the Federal Register, February 2002.
- 29 CFR 1910, 2002, "Occupational Safety and Health Standards," *Code of Federal Regulations*, Office of the Federal Register, February 2002.
- 29 CFR 1910, Subpart Z, 2002, "Toxic and Hazardous Substances," *Code of Federal Regulations*, Office of the Federal Register, February 2002.
- 29 CFR 1910.120, 2002, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations*, Office of the Federal Register, February 2002.
- 29 CFR 1910.132, 2002, "General Requirements," *Code of Federal Regulations*, Office of the Federal Register, February 2002.
- 29 CFR 1910.134, 2002, "Respirator Protection," *Code of Federal Regulations*, Office of the Federal Register, February 2002.
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- 29 CFR 1926, Subpart P, 2002, "Excavations," *Code of Federal Regulations*, Office of the Federal Register, September 2002.
- 29 CFR 1926.65, 2002, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations*, Office of the Federal Register, September 2002.
- 49 CFR 171.8, 2002, "Definitions and Abbreviations," *Code of Federal Regulations*, Office of the Federal Register, October 2002.
- 42 USC § 9601 et seq., 1980, "Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA/Superfund), *United States Code*.
- ACGIH, 2001, *Threshold Limit Values for Chemical Substances and Physical Agents*, American Conference of Governmental Industrial Hygienists.
- ANSI Z41.1-1967, "Men's Safety Toe Footwear," American National Standards Institute, 1967.
- ANSI Z87.1-1968, "Practice for Occupational and Educational Eye and Face Protection," American National Standards Institute, 1968.
- ANSI Z89.1-1969, "Safety Requirements for Industrial Head Protection," American National Standards Institute, 1969.
- DOE O 151.1A, 2000, "Comprehensive Emergency Management System," U.S. Department of Energy, November 1, 2000.
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DOE-ID, 2002b, *Quality Assurance Project Plan for Waste Area Groups 1, 2, 3, 4, 5, 6, 7, 10, and Inactive Sites*, DOE/ID-10587, Rev. 7, U.S. Department of Energy Idaho Operations Office, Idaho Falls, Idaho, September 2002.

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